A2 cont'd.

9. (newly added) A low-pressue mercury gas discharge lamp as claimed in claim 7, characterized in that the outer bulb is pear-shaped.

REMARKS/DISCUSSION OF ISSUES

Claims 1 through 9 are pending in the application. Dependent claims 8 and 9 are newly added.

The Examiner is respectfully requested to state whether the drawings are acceptable.

Claims 1 through 7 are rejected under 35 USC 103(a) as being unpatentable over Hartai et al. (US patent no. 5,041,762)(hereinafter 'Hartai') in view of Opitz et al. (US patent no. 5,744,233) (hereinafter 'Opitz').

Hartai discloses a luminous panel made up of gas-discharge channels in a matrix of a shockproof, impact resistant material. The channels may be made integral with the panel and made of the same material or may be embedded in the matrix, e.g., by casting or extrusion. (See col. 2, lines 55-59).

In contrast, Applicants' device comprises an inner bulb and an outer bulb surrounding the inner bulb. The outer bulb may be any shape known from incandescent lamps, for example, pear-shaped, ball-shaped, cherry-shaped or droplet-shaped. (See page 3, lines 1-3, 24, 25). The outer bulb may also be a rod-, ring- or U-shaped tube. (See page 3, lines 26, 27).

Within the scope of the invention, it is particularly preferred for the inner bulb to be tubular and bent, or tubular and coiled, so that said inner bulb can be enveloped by a pear-shaped outer bulb. (See page 3, lines 1-3). Dependent claims 8 and 9 have been added to cover these preferred embodiments.

The Examiner urges that Hartai discloses a discharge lamp with an inner bulb and an outer bulb, referring to the light channel (3) and the matrix (2). However, it is apparent from Hartai's description as well as from the figures that Hartai's matrix does not define a bulb, i.e., a curvilinear envelope enclosing an inner space, but rather defines a panel with flat outer surfaces. Moreover, Hartai's light channel (3) is not an inner bulb surrounded by an outer bulb, but rather is an inner channel whose extent is defined by the interior surface of the matrix, i.e., there is no space between the channel walls and the matrix.

The construction of Applicants' device is similar to that of conventional discharge lamps. Such a construction was rejected by Hartai as being unsuitable to withstand large mechanical stresses occurring in certain applications, without the need for additional expensive and complicated fittings. (See col. 1, lines 37-42). Thus, Hartai actually teaches away from the conventional bulb-within-a-bulb design claimed by Applicants.

Moreover, Hartai does not teach or suggest the use of a phosphor outside the discharge space to convert UV-A radiation to visible radiation. Hartai does teach that a phosphor material is either distributed throughout the matrix material or coated on the surface (See col. 4, lines 8-10). The function of this phosphor is to emit light upon the occurrence of a gas discharge in the channels (See col. 3, lines 64-67). However, there is no teaching or suggestion that this phosphor should be a UV-A phosphor. (A UV-A phosphor is a phosphor whose absorption maximum in the UV-A range lies between 320 and 400 nm, and which emits in the visible region. See page 4, lines 30-32 of Applicants' specification).

It is particularly advantageous that the low-pressure mercury discharge lamp in accordance with the invention does not emit UV-A radiation. The deleterious, photoionizing effect of this radiation on the human skin, colors, synthetic resins

and rubber products is thus avoided. As a result, the low-pressure mercury discharge lamps in accordance with the invention are particularly suitable for the illumination of offices, museums and laboratories. (See page 2, lines 13-18 of Applicants' specification).

Hartai does mention ultraviolet light generally, in the context that the matrix should not absorb more than a small amount of UV and short wave light. (See col. 4, lines 15-17). Furthermore, if outer sheets (5) are added to further strengthen the panel, these may be treated to block the escape of UV and short wave light. (See col. 4, lines 43-45).

However, Hartai utterly fails to appreciate the significance of employing a UV-A phosphor to prevent the escape of this particularly harmful component of UV radiation, while allowing visible light to be emitted by the device.

Opitz is cited to show the use of specific phosphor compositions as coatings in a lighting device. However, Opitz teaches that these phosphors are used for the emission of visible (red, green and blue) light (See col. 3, lines 28-32), and nowhere teaches or suggests that these phosphors would be suitable for the absorption of UV-A.

While some of the phosphors listed by Opitz are UV-A phosphors, others are not. There is simply no teaching by Opitz which would lead the skilled artisan to choose certain phosphors from the list, while rejecting others, without the

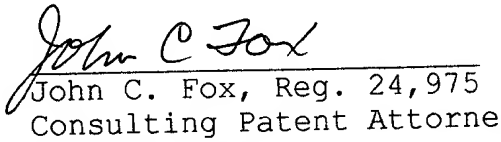
hindsight gained from Applicants' teachings regarding the harmful effect of UV-A radiation. Such hindsight is not permitted in judging obviousness under Section 103.

Thus, the combination of Hartai and Opitz fails to suggest or render unpatentable a gas discharge lamp with a bulb-within-a-bulb construction and a UV-A phosphor on the outer bulb as set forth in claim 1.

Without conceding the patentability per se of the remaining dependent claims, these claims are nevertheless patentable by virtue of their dependency on claim 1.

In view of the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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